



**1002MP**  
**2 Watts, 35 Volts**  
**Pulsed Avionics at 960-1215 MHz**

**GENERAL DESCRIPTION**

The 1002MP is a COMMON BASE transistor capable of providing 2 Watts of pulsed RF output power in the band 960 to 1215 MHz. This transistor is specifically designed for pulsed Avionics amplifier applications. It utilizes gold metallization and low thermal resistance packaging to provide high reliability and supreme ruggedness.

**ABSOLUTE MAXIMUM RATINGS**

**Maximum Power Dissipation**

Device Dissipation @ 25°C                    7 W

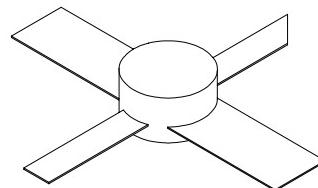
**Maximum Voltage and Current**

Collector to Base Voltage ( $BV_{ces}$ )        50 V  
Emitter to Base Voltage ( $BV_{ebo}$ )            3.5 V  
Collector Current ( $I_c$ )                          250 mA

**Maximum Temperatures**

Storage Temperature                          -40 to +150 °C  
Operating Junction Temperature            +200 °C

**CASE OUTLINE**  
**55FW-1**



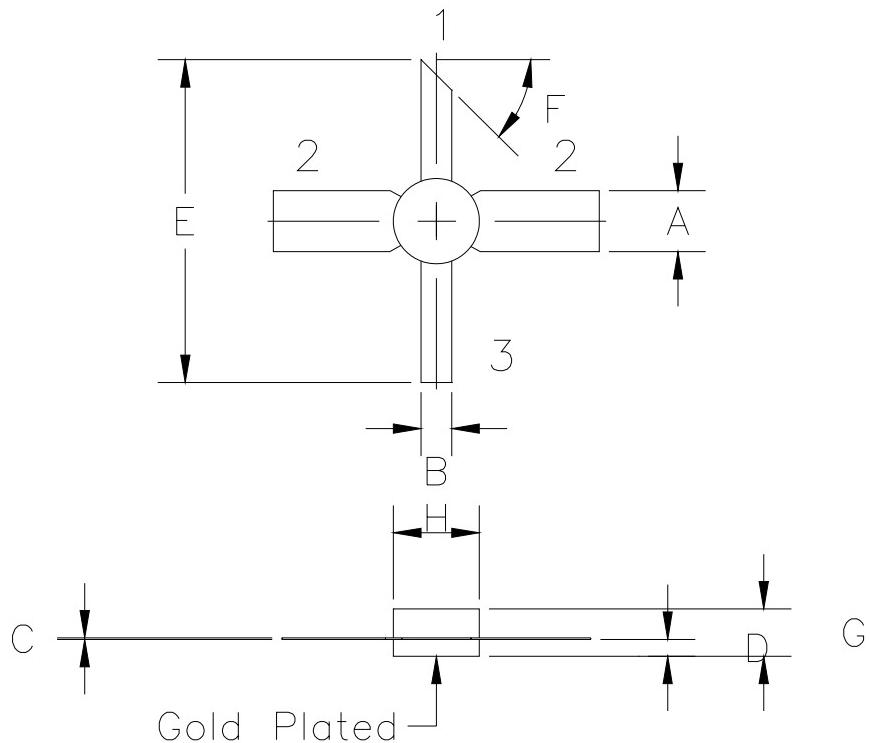
**ELECTRICAL CHARACTERISTICS @ 25°C**

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$P_{out}$	Power Output	$F = 1150 \text{ MHz}$ $V_{cc} = 35 \text{ Volts}$ Pulse width = 20 $\mu\text{s}$ $LTDF = 1\%$	2.0	2.5		W
$P_{in}$	Power Input				0.3	W
$P_g$	Power Gain		10	11		dB
$\eta_c$	Collector Efficiency			45		%
VSWR	Load Mismatch Tolerance				10:1	

**FUNCTIONAL CHARACTERISTICS @ 25°C**

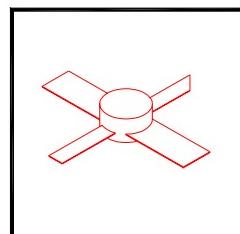
$BV_{ebo}$	Emitter to Base Breakdown	$I_e = 50 \text{ mA}$	3.5			V
$BV_{ces}$	Collector to Emitter Breakdown	$I_c = 100 \text{ mA}$	50			V
$h_{FE}$	DC – Current Gain	$V_{ce} = 5\text{V}, I_c = 100 \text{ mA}$	20			
$C_{ob}$	Capacitance			2.5	5.0	pF
$\theta_{jc}^1$	Thermal Resistance				25	°C/W

**1002MP**



**STYLE 1:**  
PIN1 = COLLECTOR  
2 = BASE (2X)  
3 = Emitter

**STYLE 2:**  
PIN1 = COLLECTOR  
2 = Emitter (2X)  
3 = BASE



DIM	MILLIMETER	$\pm$ TOL	INCHES	$\pm$ TOL
A	5.08	.13	.200	.005
B	7.11 DIA	.13	.280 DIA	.005
C	0.13	.02	.005	.001
D	1.40	.13	.055	.005
E	26.92	.64	1.060	.025
F	45°	5°	45°	5°
G	3.94	REF	.155	REF
H	2.54	.13	.100	.005

DWG NO.

**55FW**



**GHz TECHNOLOGY**  
RF - MICROWAVE SILICON POWER TRANSISTORS